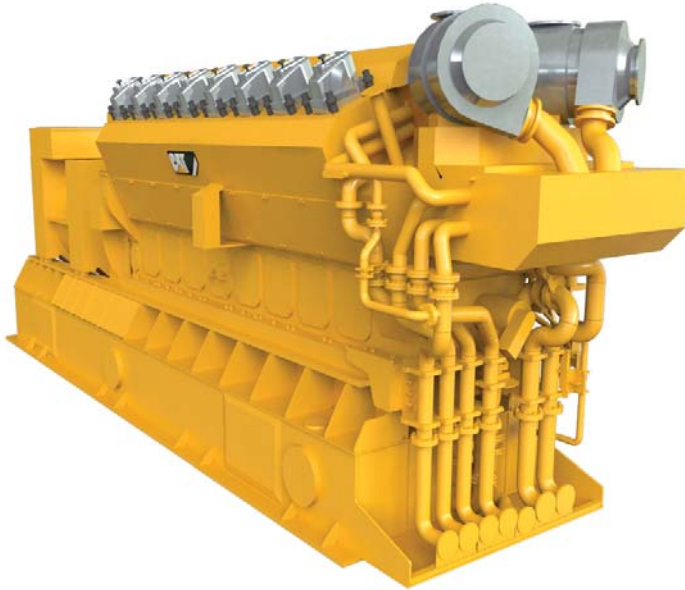


Caterpillar Power Plants

CM32

12CM32 • 16CM32 • 60Hz



Engine Specifications

Engine Type.....4-stroke engine
Cylinder configuration..... Vee - 12, 16
Fuel type.....LFO, CRO and HFO up to 700 cSt
Bore.....320 mm (12.6 in)
Stroke.....420 mm (WBII 460 mm)
Cylinder displacement.....33.8 L (WBII 37.0)
Cylinder output.....500 kW(644 bhp)
Mean piston speed.....10.1 m/s (WBII 11.0)
Mean effective pressure.....23.7 bar (WBII 21.6)
Aspiration.....Turbocharged and after-cooled
Engine rating.....6,000 - 8,000 kWm
Generator set rating.....5,850 - 7,800 kWe

Features

Designed for Reliable Operation

- ▶ Intensive cooling of key components including exhaust valve seats, injector cooling integrated into lube oil system and high-efficiency turbocharger
- ▶ Capable of operation up to 700 cSt/50° C fuel quality according to CIMAC H55/K55

Minimized Mechanical Wear

- ▶ Modular design
- ▶ State of the art material ensures long life of components

Overall Economy

- ▶ High availability and long life
- ▶ Low fuel and oil consumption
- ▶ Low maintenance requirements

Highest Quality Engine Parts

- ▶ Semi-dry wear resistant liners with calibration inserts
- ▶ Pistons with forged steel crown and aluminum skirt
- ▶ Inlet/Outlet valves with armored seats
- ▶ High efficiency turbo charger

One-Piece Dry Engine Block

- ▶ High strength nodular cast iron with under slung crankshaft and free from cooling water

Ease of Maintenance & Reliability

- ▶ Easily removable cylinder heads, quick removable fluid connections
- ▶ Split connecting rods to allow piston removal without disturbing the big end bearing
- ▶ High reliability, modular design and integral construction reduce the number of components by 40% over conventional designs

Total Power Solutions

- ▶ Caterpillar® can develop, finance, design, build, test, maintain and operate medium speed reciprocating engine power plants and at the customer's option provide:
 - Power generation equipment
 - Engineered systems
 - Turnkey power plants
 - Contract power
 - Combined heat and power systems
 - Construction and installation services
 - Operation and maintenance services

Worldwide Product Support

- ▶ With nearly 200 Cat dealers & 1500 facilities worldwide serving in excess of 200 countries, you're never far from the Caterpillar support you need.
- ▶ Customer Support Agreements offer back-to-back services including scheduled inspections, preventative maintenance and overhauls to full operations and maintenance.

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Nominal Performance

	Engine Rating	Generator Set Rating	Speed	Frequency	Heat Rate				Specific Lube Oil Consumption		
					WB I		WB II				
	<u>kWm</u>	<u>kWe</u>	<u>kVA</u>	<u>RPM</u>	<u>Hz</u>	<u>kJ/kWh</u>	<u>Btu/KWh</u>	<u>kJ/kWh</u>	<u>Btu/KWh</u>	<u>g/kWh</u>	<u>lb/kWh</u>
12CM32	6,000	5,850	7,312	720	60	7,785	7,379	7,829	7,421	0.6	0.0012
16CM32	8,000	7,800	9,750	720	60	7,785	7,379	7,829	7,421	0.6	0.0012

Rating Definitions and Conditions

Fuel type: Light fuel oil (LFO), crude oil (CRO) and heavy fuel oil (HFO) with fuel quality limit at 50° C according to CIMAC H55/K55.

Ratings: Based on ISO 3046/1 standard reference conditions.

Power output: May require adjustment for values other than ISO 3046/1 standard reference conditions.

Conditions output: Available for an unlimited time without varying load.

Generator efficiency of 97.5% based on 0.8 pf with medium voltage class generator; actual efficiency will depend on generator selection.

Fuel consumption: Based on ISO 3046/1 standard reference conditions of 25° C (77 F) and 100 kPa (29.61 in Hg), including one engine-driven lube oil pump, with 5% tolerance and LCV=42, 700 kJ/kg (18, 358 Btu/lb). Value based on measurement at the generator terminals.

Lube oil consumption: Tolerance on value of +/-0.3 g/kWh (0.0007-lb/kWh). Lube oil consumption can only be demonstrated after 500 hours of operation.

FOR MORE INFORMATION Go to:
<http://www.cat.com/powerplants>
<http://www.catpowerplants.com>

	Engine Dimensions						Approximate Weight (Dry)			
	Height (H)		Width (W)		Length (L)		Engine		Generator	
	<u>mm</u>	<u>in</u>	<u>mm</u>	<u>in</u>	<u>mm</u>	<u>in</u>	<u>kg</u>	<u>lb</u>	<u>kg</u>	<u>lb</u>
12CM32	4,380	172	2,800	110	5,757	227	64,400	141,978	24,800	54,675
16CM32	4,380	172	2,800	110	5,757	227	81,400	179,456	38,500	84,878

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